WHAT IS CLAIMED IS:

1.   A noise determiner for use with a communications system,
comprising:

a crosstalk identifier configured to detect directly a noise
source in a frequency domain from observed noise associated with
said communications system; and

a crosstalk estimator coupled to said crosstalk identifier and
configured to provide a corresponding level of said noise source.

2.   The noise determiner as recited in Claim 1 wherein said
crosstalk identifier considers radio frequency interference.

3.   The noise determiner as recited in Claim 1 wherein said
crosstalk identifier considers unknown disturbers.

4.   The noise determiner as recited in Claim 1 wherein said
crosstalk identifier places said noise source into a modeling
system selected from the group consisting of:

an American noise model,

an old European Technical Standards Institute (ETSI) noise
model, and

a new ETSI noise model.

5.   The noise determiner as recited in Claim 1 wherein said
noise source has a power spectral density of a form $P_N(f) = g(k) P_B(f)$.

6.   The noise determiner as recited in Claim 1 wherein said
noise source is a noise selected from the group consisting of:

Additive White Gaussian Noise,

Digital Subscriber Line (DSL) Near-End Crosstalk (NEXT),

High Bit-Rate DSL (HDSL) NEXT,

T1 NEXT, and

European Technical Standards Institute (ETSI) defined noise.

7.   The noise determiner as recited in Claim 1 wherein said
communications system is a digital subscriber line (DSL) system.

8.   A method of determining noise in a communications system,

2   comprising:

3   directly detecting a noise source in a frequency domain from

4   observed noise associated with said communications system; and

5   providing a corresponding level of said noise source.

9.   The method as recited in Claim 8 wherein said detecting

2   includes considering radio frequency interference.

10.   The method as recited in Claim 8 wherein said detecting

2   includes considering unknown disturbers.

11.   The method as recited in Claim 8 wherein said detecting

2   includes placing said noise source into a modeling system selected

3   from the group consisting of:

4   an American noise model,

5   an old European Technical Standards Institute (ETSI) noise

6   model, and

7   a new ETSI noise model.

12.   The method as recited in Claim 8 wherein said noise

2   source has a power spectral density of a form $P_N(f) = g(k) P_B(f)$.

13. The method as recited in Claim 8 further including
2 selecting said noise source from the group consisting of:

3 Additive White Gaussian Noise,

4 Digital Subscriber Line (DSL) Near-End Crosstalk (NEXT),

5 High Bit-Rate DSL (HDSL) NEXT,

6 T1 NEXT, and

7 European Technical Standards Institute (ETSI) defined noise.

14. The method as recited in Claim 8 wherein said
2 communications system is a digital subscriber line (DSL) system.

15. A digital subscriber line (DSL) modem, comprising:

2 a front end coupled to a DSL channel;

3 a transmitter coupled to said front end that processes a

4 digital signal for analog transmission over said channel; and

5 a receiver coupled to said front end that converts an analog

6 signal received over said channel to a digital signal; and

7 a noise determiner, including:

8 a crosstalk identifier that detects directly in a

9 frequency domain a noise source from observed noise associated with

10 said channel; and

11 a crosstalk estimator coupled to said crosstalk

12 identifier that provides a corresponding level of said noise

13 source.

16. The DSL modem as recited in Claim 15 wherein said

2 crosstalk identifier considers radio frequency interference.

17. The DSL modem as recited in Claim 15 wherein said

2 crosstalk identifier considers unknown disturbers.

18.   The DSL modem as recited in Claim 15 wherein said

2 crosstalk identifier places said noise source into a modeling

3 system selected from the group consisting of:

4   an American noise model,

5   an old European Technical Standards Institute (ETSI) noise

6 model, and

7   a new ETSI noise model.

19.   The DSL modem as recited in Claim 15 wherein said noise

2 source has a power spectral density of a form $P_N(f) = g(k) P_B(f)$.

20.   The DSL modem as recited in Claim 15 wherein said noise

2 source is a noise selected from the group consisting of:

3   Additive White Gaussian Noise,

4   Digital Subscriber Line (DSL) Near-End Crosstalk (NEXT),

5   High Bit-Rate DSL (HDSL) NEXT,

6   T1 NEXT, and

7   European Technical Standards Institute (ETSI) defined noises.

21.   The DSL modem as recited in Claim 15 wherein said DSL

2 modem is an Asymmetric DSL modem.